"PATENT"

AMENDMENT TRANSMITTAL FORM

In re application of: Paul J. Berkowitz, et al.
U. S. Serial No.: 10/086,775
Filed: March 1, 2002
LOW EMISSIONS FUEL EMULSION

) Before the Examiner
) Cephia D. Toomer
)
) Confirmation Number: 8963
)
) Group Art Unit: 1714
)
) Family Number: P2002J025

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Commissioner for Patents
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Sharon M. LaMonte — Type or print name of person signing certification
Signature
February 14, 2008 — Date

Transmittal herewith is an amendment/response in the above-identified application.

Petition for extension of time pursuant to 37 CFR 1.136 and 1.137 is hereby made, if and to the extent, required. The fee for this extension of time is calculated to be $ Ø to extend the time for filing this response until Ø.

The fee for any changes in number of claims has been calculated as shown below.

CLAIMS AS AMENDED						
(1)	(2) Claims Remaining After Amendment	(3)	(4) Highest Number Previously Paid For	(5) Present Extra	(6) Rate	(7)
Total Claims	*	Minus	**		x 50.00	
Indep. Claims	*	Minus	***		x 200.00	
MULTIPLE DEPENDENT CLAIM FEE					$ 360.00	
				FEE FOR CLAIM CHANGES		Ø

* If the entry in Column 2 is less than the entry in Column 4, write "0" in Column 5.
** If the "Higher Number Previously Paid For" IN THIS SPACE is less than 20, write "20" in this space.
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, write "3" in this space.

The total fee for this APPEAL TO THE BOARD OF PATENT APPEALS AND INTERFERENCES PURSUANT TO 37 CFR 41.31, including claim changes and any extension of time is calculated to be $510.00.

[X] Charge $ 510.00 to DEPOSIT ACCOUNT NO. 05-1330.

[X] The Commissioner is hereby authorized to charge any additional fees under 37 CFR 1.16 and 1.17 which may be required by this paper, or credit any overpayment, to DEPOSIT ACCOUNT NO. 05-1330.

February 14, 2008
DATE OF SIGNATURE

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[X] Pursuant to 37 CFR 1.34(a)

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"PATENT"

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Paul J. Berkowitz, et al.	)	Before the Board of Patent Appeals and Interferences
U.S. Serial No. 10/086,775	)	Examiner: Cephia D. Toomer
Filed: March 1, 2002	)	Confirmation Number: 8963
For: LOW EMISSIONS FUEL EMULSION	)	Group Art Unit: 1714
	)	Family Number: P2002J025

Mail Stop Appeal Brief – Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

APPEAL TO THE BOARD OF PATENT APPEALS AND INTERFERENCES PURSUANT TO 37 CFR 41.31

Applicants hereby appeal the rejection by the Examiner of all the claims which remain pending in this Application.

CERTIFICATION OF FACSIMILE TRANSMISSION

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Sharon M. LaMonte	Sharon M LaMonte	Feb. 14, 2008
Print name of person signing certification	Signature	Date

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I) Real Party in Interest

The real party in interest in this case is applicants' Assignee, ExxonMobil Research and Engineering Company.

II) Related Appeals and Interferences

There are no prior or pending appeals or interferences or judicial proceedings in this or any related application(s) or patent(s) which are related to or will directly affect or be directly affected by or have a bearing on the Board's decision in this pending appeal.

III) Status of Claims

Claims 1, 5-10 and 12-14 are pending in this case.

Claims 1, 9 and their dependents are rejected by the Examiner under 35 CFR § 112, first paragraph.

Claims 1, 5-10 and 12-14 are rejected by the Examiner under 35 USC § 103(a). The rejection of these claims is appealed.

IV) Status of Amendments

A non-final rejection of all the claims remaining in the case was mailed September 24, 2007. This non-final rejection was directed to the Amendment Under 37 CFR 1.116 submitted on July 5, 2007 in response to the Examiner's final rejection of all the claims, mailed April 19, 2007. The Amendment Under 37 CFR 1.116

submitted on July 5, 2007 accompanied a Request for Continued Examination under 37 CFR 1.114, which request was granted. The Amendment Under 37 CFR 1.116 submitted July 5, 2007 was entered by the Examiner.

The Examiner's rejection of September 24, 2007 constituted the seventh rejection by the Examiner of the claims in this application.

V) Summary of Claimed Subject Matter

Claim 1 (independent). The present invention is directed to a method for reducing particulate emissions during combustion in an engine of a hydrocarbon fuel to a level 53% to 91.5% lower than that obtained with Swedish Class I Diesel fuel (paragraphs [0028], [0029], [0030]) combusted under the same conditions as an engine (paragraphs [0028], [0029], [0030]), which method comprises combusting in the engine an emulsion of a hydrocarbon fuel and water (paragraph [0005]) containing a non-ionic surfactant or mixture thereof (paragraph [0017]), whereas the fuel is a Fischer-Tropsch derived hydrocarbon or a mixture of Fischer-Tropsch fuel and a conventional fuel (paragraph [0011]) and in which emulsion the hydrocarbon particles are substantially uniform in size and are in the range of about 0.1 to about 1.0 microns ([paragraph [0020]) and wherein said emulsion is a hydrocarbon-in-water emulsion (paragraphs [0001], [0005]).

Claim 5 (dependent) is directed to the method of claim 1 wherein the volume ratio of hydrocarbon to water is in the range of 95:5 to 60:40 (paragraph [0016]).

Claim 6 (dependent) is directed to the method of claim 5 wherein greater than 80% of the hydrocarbon particles in the emulsion are in the range of about 0.1 to about 1.0 microns in size (Original claim 6).

Claim 7 (dependent) is directed to the method of claim 6 wherein the Fischer-Tropsch derived hydrocarbon boils in the diesel fuel range (paragraph [0006]).

Claim 8 (dependent) is directed to the method of claim 7 wherein the emulsion has a viscosity in the range of about 50 to 200 mm^2/sec (paragraph [0023]).

Claim 9 (independent) is directed to a method for forming a fuel-in-water emulsion which when combusted in an engine exhibits a reduction in particulate matter emissions of 53% to 91.5% as compared with the particulate matter emissions generated by a Swedish Class I Diesel fuel when similarly combusted in an engine (paragraphs [0028], [0029], [0030]) comprising shearing (paragraph [0020]) a Fischer-Tropsch (FT) derived hydrocarbon boiling in the diesel fuel range or a mixture of the FT fuel and a conventional hydrocarbon fuel with water (paragraphs [0011], [0015]) in the volume ratio of hydrocarbon-to-water of 95:8 (sic, should read 95:5) to 40:60 (sic, should read 60:40) (paragraph [0016]) and about 0.05 to about 5.0 wt% based on the weight of hydrocarbon and water with a non-ionic surfactant or mixture thereof having an HLB of about 5 to about 30 (paragraphs [0018], [0017]), under shearing conditions sufficient to produce a liquid emulsion in which the hydrocarbon has particles substantially uniform in size and in the range of about 0.1 microns to about 1.0 microns (paragraph [0020]).

Claim 10 (independent) is directed to a liquid fuel composition comprising an emulsion of a FT derived fuel in water and containing a non-ionic surfactant or mixture thereof (paragraphs [0011], [0015], [0017]) wherein the fuel in the emulsion has substantially uniform fuel particle sizes predominantly of 1 micron or less (original claim 10) and the emulsion has a viscosity of above about 50 mm^2/sec at 20°C (original claim 10).

Claim 12 (dependent) is directed to the composition of claim 10 wherein the Fischer-Tropsch derived fuel boils in the diesel fuel range (paragraph [0006]).

Claim 13 (dependent) is directed to the method of claim 1 wherein greater than 50% of the hydrocarbon particles are in the range of about 0.1 to 1.0 microns in size (paragraph [0020]).

Claim 14 (dependent) is directed to the method of claim 9 wherein greater than 50% of the hydrocarbon particles are in the range of about 0.1 to about 1.0 microns in size (paragraph [0020]).

VI) Grounds of Rejection to be Reviewed on Appeal

A. The rejection of claims 1, 9 and their dependents under 35 USC § 112 first paragraph as failing to comply with the written description requirement.

B. The rejection of claims 1, 5-10 and 12-14 under 35 USC § 103(a) as obvious over WO 99/63025.

VII) Arguments

A. The rejection of claims 1, 9 and their dependents under 35 USC § 112 first paragraph as failing to comply with the written description requirement.

The Examiner maintains that the enumerated claims contain subject matter which was not described in the specification in such a way as to reasonably convey to

one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

The Examiner indicates that applicants amended the claims to include the range 53-91.5% as it relates to the reduction of particulate emissions and that applicants state that the two examples are the same composition but run at two different loads.

The Examiner disagrees with applicants' arguments, arguing that there is "nothing in the specification to support this range", applicants having only presented two data points with no support in the specification for points between 53 and 91.5%.

Applicants respectfully traverse the rejection.

As previously indicated, the values of 53% and 91.5% are taken from Figures 2 and 3 of the present specification. The fuel employed and the experimental procedure used to generate the data in Figures 2 and 3 is recited in the Text beginning at page 7, Example 2.

In Example 2 it is stated that the emulsified Fischer-Tropsch fuel of Example 1 (fuel of the invention) was compared to the same but unemulsified Fischer-Tropsch diesel fuel and to Swedish Class I Diesel fuel using a Caterpillar 1Y540 single cylinder heavy duty research engine under two conditions, low load and medium load.

In Figure 2 under low load conditions the unemulsified FT diesel fuel exhibited the same emissions performance behavior as the Swedish Class I Diesel, indicating that comparisons between unemulsified FT diesel fuels and emulsified FT diesel fuels would be a satisfactory stand-in representation of performance differences between emulsified FT diesel fuels and Swedish Class I Diesel fuel. That is, unemulsified FT

diesel fuel can function as a stand-in for Swedish Class I Diesel fuel for purposes of comparison with other fuels.

Further, in Figure 2 the emulsified FT fuel (of Example 1) (fuel of the invention) showed NO_x emissions 22% below Swedish Class I Diesel and particulate matter emissions of 53% below at low load conditions. The baseline, set at 0% change, represents the comparable emission levels generated by the combustion of Swedish Class I Diesel at comparable conditions.

In Figure 3 the results for the medium load run are reported. As had been stated at the beginning of Example 2, paragraph 26, the emulsified FT fuel of Example 1 was compared to unemulsified FT fuel and Swedish Class I Diesel under low and medium load.

Thus, the results reported in Figure 3 (medium load) are for the same emulsified FT diesel fuel, unemulsified FT diesel fuel and Swedish Class I Diesel fuel as was used to generate the results of Figure 2 (low load).

The fuels tested in Example 2 to give the results reported in Figures 2 and 3, therefore, are the same fuels, in the case of the emulsified FT fuel made using the same non-ionic surfactant in the same amount, because, as stated "The performance of the emulsified Fischer-Tropsch diesel fuel of Example 1 was compared to the same but not unemulsified Fischer-Tropsch diesel fuel and to Swedish Class I Diesel fuel . . ." at low and medium load.

The same emulsified FT diesel fuel was used in both sets of experiments, resulting in the data presented in Figures 2 and 3.

The difference in the results obtained, 53% lower emissions and 91.5% lower emissions than Swedish Class 1 Diesel fuel, is not a consequence of there being any difference in the emulsified FT fuel employed, but rather, in the conditions at which the test was performed, the 53% reduction being secured at low load and the 91.5% reduction being secured at medium load.

Diesel engines run under varying loads. Thus a diesel engine could and does run at different load conditions at different periods of time. Demonstration of 53% reduction in particle emissions at one load and demonstration of 91.5% reduction in particle emissions at a different load should fairly convey to those skilled in the art that operation of a diesel engine at different load conditions would be expected to result in a reduction in particulate emissions in the range of 53 to 91.5%, based on the teaching of the two examples presented in Tables 1 and 2. That is, a reduction in particulate matter emissions in the range between the two end points established would be expected. It cannot be maintained, as attempted by the Examiner, that the points between 53% and 91.5% are not supported.

One of skill in the art would not expect reduction in particulate emissions to fall below a line drawn between 53% to 91.5%. That is, at some load level between those tested, the reduction in particulate emissions would not be expected to fall below 53% but rather be somewhere between the recited end points. It should not be necessary to have to conduct a test at every conceivable load level when one of skill reasonably can expect that the particle emissions result at such different conditions should necessarily fall between the 53% and 91.5% reduction obtained from experiments conducted at the two sets of conditions clearly described in paragraph [0026]. To require justification and evidence for every point between 53% and 91.5% in this case is unreasonable. It would be the same as demanding evidence to justify every point in, for example, a synthesis process wherein product yield is based on reaction conditions.

Provision of two yield values, X and Y, at different conditions is traditionally accepted as a sufficient base to claim yields in the range of X to Y, covering the points between the actually demonstrated point X and point Y.

The Examiner's argument that data at points under two sets of conditions doesn't support a range claim is not correct.

All range claims are based on at least two points establishing the end points of the claimed range, by interpolation between the demonstrated end points.

These points are generated at different conditions because it would be expected that points generated at the same conditions would be substantially the same.

Only by evaluation at different conditions; i.e., at different loads, is it possible to see the extent of the scope of the invention in this case, the extent of particulate emissions reduction.

Thus, the text makes it clear that the two points referred to were both generated using the same fuel, the only difference being in the loads at which the two points were generated. The data in the specification is believed to support the claimed range.

B. The rejection of claims 1, 5-10 and 12-14 under 35 USC § 103(a) as obvious over WO 99/63025

Applicants elect to have the patentability of (I) claims 1, 5-9, 13 and 14, the method claims, considered separately from the patentability of (II) claims 10 and 12, the composition claims.

generated upon combustion of the emulsion fuels are reduced from 53 to 91.5% as compared to Swedish Class I Diesel fuels. As previously demonstrated, the results presented in Figures 2 and 3 are generated from the combustion of identical emulsified

PAGE 11/23 * RCVD AT 2/14/2008 2:22:15 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-4/19 * DNIS:2738300 * CSID:908 730 3649 * DURATION (mm-ss):06-06

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FT fuels as per Example 1, the difference in the results being due to different load conditions in the tests, Figure 2 data being generated at low load and Figure 3 data being generated at medium load.

These results are secured when the emulsion fuel combusted has a hydrocarbon particle size of 0.1 to 1.0 micron. In the exemplified fuel the emulsion particle size was 0.7 microns on average with 95% being smaller than 1 micron.

In comparison in '025 the emulsion that is combusted is recited as being a Macro emulsion having an emulsion particle size of 10 microns or less, but what the actual particle size is is not indicated. All the data generated in '025 is based on the emulsion having a particle size of 10 microns or less. Nothing in '025 would teach, suggest, imply or provide any motivation to one of ordinary skill in the art to investigate or test emulsions having particle sizes of 0.1 to 1 micron for differences in particulate emissions or NO_x emissions.

The Examiner challenges the discovery of the particulate emissions reduction performance of emulsions having a hydrocarbon particle size of 0.1 to 1.0 micron as routine optimization to secure the best results.

For the discovery to be classified as routine optimization would, however, require that the reference somehow or somewhere taught, suggested or implied that particulate emissions reduction was a function of hydrocarbon particle size. The reference provides no motivation to one of skill in the art to experiment with hydrocarbon particle size in order to secure further improvements in particulate emissions reduction.

The '025 reference merely teaches particulate emissions reduction when the fuel combusted is a Macro emulsion emulsion having a hydrocarbon particle size of 10 microns or less. The teaching in no way suggests that by varying the hydrocarbon particle size the particulate emissions can be improved. All that can be said is that particulate emissions will be reduced, probably to the extent actually demonstrated in the '025 reference. Nothing suggests that by employing a smaller hydrocarbon particle size the emissions level can be further reduced to below that demonstrated in the reference.

While a reference is not limited to what it teaches in the Example, more than what is actually taught in the reference as a whole cannot be attributed to the reference.

While '025 does teach particulate emissions reduction upon the combustion of fuel Macro-emulsions when the hydrocarbon product size is 10 microns or less, it cannot be argued that this suggests that particulate emissions reduction can be further improved by varying the hydrocarbon product size.

While a particle size of 10 microns or less embraces a particle size of 0.1 to 1.0 micron, nothing in '025 suggests or would lead one of skill in the art to expect that by employing a hydrocarbon particle size predominantly of 0.1 to 1.0 micron the particulate emissions reduction would be or could be improved beyond the level demonstrated in the Example of '025. One would expect only the same or substantially similar results employing a hydrocarbon particle having a particle size anywhere in the range embraced by the "10 microns or less" recitation.

In the example at page 23 of '025, various fuels are compared. Fuels corresponding to EPA Emissions Certification Diesel fuel, CARB Diesel, RME

(Rapeseed methyl ester) diesel, and Fischer-Tropsch diesel are utilized as are macro emulsions of these fuels in water. The emulsions are compared to the unemulsified fuels but specific results for each fuel/fuel emulsion pair are not individually reported. Rather, only general, non-specifically identified/attributed ranges are reported. In all cases, however, and even assuming that the lowest PM emissions results in each comparison correspond to the results from the best fuels tested, the maximum improvement achieved in '025 ranges from about 6% to about 44% under different load conditions presuming in each case that the best fuels correspond to an FT fuel and an FT fuel-in-water Macro emulsion. This presumption is not arbitrary but rather is based on the teaching in the present application that (1) Swedish Class I Diesel is a standard low emissions reference diesel that produces about 40-50% lower PM emission than conventional diesel and (2) FT diesel has been shown to similarly produce 40-60% less PM emissions than conventional diesel. Thus, Swedish Class I Diesel and unemulsified FT diesel can be judged to be substantially equivalent in PM emissions.

The Examiner argues that '025 doesn't compare its emulsified fuel to Swedish Class I Diesel.

The statement fails to acknowledge that in the present application it has been shown that Swedish Class I Diesel and unemulsified FT diesel behave substantially similarly in terms of particulate emissions.

Thus, because '025 compares its emulsified FT fuel against unemulsified FT fuel, and it having been shown in the present application that Swedish Class I Diesel and unemulsified FT diesel behave substantially similarly, it is legitimate to maintain that this is comparable to comparing the emulsified FT fuel of '025 against Swedish Class I Diesel.

It is maintained that the present demonstration of an improvement in particulate emissions reduction in the present invention (53-91.5% reduction versus Swedish Class I Diesel) compared to at best 6 to 44% reduction in particulate emissions for the Macro emulsion of '025 versus unemulsified FT diesel (unemulsified FT diesel having been demonstrated as being substantially equivalent to Swedish Class I Diesel), the comparison and arguments presented are against the closed prior art. The Example of '025 per se compares the '025 emulsion against FT diesel (equivalent of Swedish Class I Diesel). The Example of the present invention compares the present emulsified FT fuel having a hydrocarbon product size of 0.1 to 1.0 micron (in the test the product size is average 0.7 microns with 95% below 1 micron in size) against Swedish Class I Diesel (equivalent to unemulsified FT diesel).

Particulate emissions are reduced 53-91.5% in the present invention versus 6-44% in the invention of '025.

Nothing in '025 taught, suggested or implied how to, or even if it would be possible to, improve the reduction level to better than 44%.

Applicants found that reducing the hydrocarbon particle size of the emulsion such that the hydrocarbon particles are substantially uniform in size in the range of about 0.1 to 1.0 micron resulted in an unexpected further lowering of the particulate emissions.

It is believed that improvement in particulate matter emissions is due to the reduction in hydrocarbon particle size.

Nothing in '025 teaches that its emulsion have or should have a particle size substantially uniform and in the 0.1 to 1.0 micron range. All '025 teaches, suggests or implies is that its particle size be 10 microns or less.

Based on '025, one of ordinary skill in the art would have expected fuel-in-water emulsions, regardless of particle size, to generate substantially similar results within the 6 to 44% range reported in '025 at various loads. Nothing in '025 can be seen as teaching, suggesting or implying a PM emissions reduction of between 53% to 91.5% compared to Swedish Class I Diesel, upon combustion of a FT fuel-in-water emulsion where the FT fuel particle size is substantially uniform in the range of 0.1 to 1.0 micron. Nothing teaches, suggests or implies that the level of PM emissions can be reduced to from 53% to 91.5% below those of Swedish Class I Diesel fuel nor provides any teaching or suggestion as to how to achieve such an improved level in particulate matter emissions reduction and clearly does not suggest that the level of particulate matter emissions could be improved (i.e., reduced) by reducing the particle size of the fuel emulsion.

The typographical errors appearing in claim 9 will be corrected upon determination by the Board of the patentability of said claim.

II) In regard to the Examiner's rejection of claims 10 and 12 under 35 USC § 103(a) as obvious in view of WO 99/63025, applicants wish to point out that nothing in '025 teaches, suggests or implies an emulsified fuel composition comprising a FT diesel fuel-in-water emulsion containing a non-ionic surfactant or mixture of non-ionic surfactants wherein the hydrocarbon products in the emulsion are substantially uniform in size and are predominantly of 1 micron or less nor that any benefit would be or could be obtained by so reducing the hydrocarbon particle size. '025 merely recites that the emulsion particles are 10 microns or less, does not teach,

suggest or imply a composition specifically constituted to have a uniform particle size predominantly of 1.0 micron or less or the benefit associated therewith.

It must be recognized that '025 does not merely recite that the particle size is 10 microns or less but rather that it makes use of a MACRO emulsion having particles of 10 microns or less.

Macro emulsions are different than the emulsions used in the present invention, the emulsions of the present invention having substantially uniform particles in size of 0.1 to 1.0 microns. Such an emulsion as used in the present invention is a micro emulsion.

All the data generated in '025 is based on the use of a macro emulsion having particles of 10 microns or less; believed, in the absence of any clarifying information in the reference, to be particles covering the full range of 10 microns or less in size.. Nothing in '025 teaches, suggests, implies or provides any motivation to produce or to use or to test emulsions having particles substantially uniform in size of 0.1 to 1.0 microns, as compared to macro emulsions having hydrocarbon particles distributed over the entire 10 microns or less range.

In the absence of any evidence or teaching to the contrary, it is believed to be legitimate to presume that the Macro emulsions of '025 would have a particle size distribution over the entire 0.1 to 10 micron range. Nothing in '025 teaches that an emulsion wherein the fuel particles are substantially uniform and are in the 0.1 to 1.0 micron range can or should be produced. That such compositions are different than the emulsion of '025 is apparent from a comparison of the data in '025 with the results reported in the present application.

VIII) Relief Requested

It is requested that the Board of Patent Appeals and Interferences reverse the Examiner, find the claims allowable, and direct that the application be passed to issue in due course.

Applicants waive Oral Argument.

Respectfully submitted,

Date: February 14, 2008

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[X] Pursuant to 37 CFR 1.34(a)

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IX) Claim Appendix

Claim 1. A method for reducing particulate emissions during combustion in an engine of a hydrocarbon fuel to a level 53% to 91.5% lower than that obtained with Swedish Class 1 Diesel Fuel combusted under the same conditions in an engine which comprises combusting in the engine an emulsion of a hydrocarbon fuel and water containing a non-ionic surfactant and mixtures thereof wherein the fuel is a Fischer-Tropsch (FT) derived hydrocarbon or a mixture of a FT fuel and a conventional fuel and in which emulsion the hydrocarbon particles are substantially uniform in size and in the range of about 0.1 to 1.0 microns and wherein said emulsion is a hydrocarbon-in-water emulsion.

Claims 2-4. (Canceled)

Claim 5. The method of claim 1 wherein the volume ratio of hydrocarbon to water is in the range of 95:5 to 60:40.

Claim 6. The method of claim 5 wherein greater than 80% of the hydrocarbon particles are in the range of about 0.1 to 1.0 microns in size.

Claim 7. The method of claim 6 wherein the Fischer-Tropsch derived hydrocarbon boils in the diesel fuel range.

Claim 8. The method of claim 7 wherein the emulsion has a viscosity in the range of about 50 to 200 mm^2/sec.

Claim 9. A method for forming a fuel in water emulsion which when combusted in an engine exhibits a reduction in particulate matter emissions of 53% to

91.5% as compared with the particulate matter emissions generated by a Swedish Class I Diesel Fuel when similarly combusted in an engine comprising shearing a Fischer-Tropsch (FT) derived hydrocarbon boiling in the diesel fuel range or a mixture of the FT fuel and a conventional hydrocarbon fuel with water in the volume ratio of hydrocarbon to water of 95:8 to 40:60 and about 0.05 to about 5.0 wt% based on the weight of hydrocarbon and water with a non-ionic surfactant or mixtures thereof having an HLB of about 5 to about 30 under shearing conditions sufficient to produce a liquid emulsion in which the hydrocarbon has particles substantially uniform in size and in the range of about 0.1 microns to about 1.0 microns.

Claim 10. A liquid fuel composition comprising an emulsion of FT derived fuel in water and containing a non-ionic surfactant or mixtures thereof wherein the fuel in the emulsion has substantially uniform fuel particle sizes predominantly of 1 micron or less and the emulsion has a viscosity of above about 50 mm^2/sec at 20°C.

Claim 11. (Canceled)

Claim 12. The composition of claim 10 wherein the Fischer-Tropsch derived fuel boils in the diesel fuel range.

Claim 13. The method of claim 1 wherein greater than 50% of the hydrocarbon particles are in the range of about 0.1 to about 1.0 microns in size.

Claim 14. The method of claim 9 wherein greater than 50% of the hydrocarbon particles are in the range of about 0.1 to about 1.0 microns in size.

Claim 15. (Canceled)

Claim 16. (Canceled)

X) Evidence Appendix

Evidence submitted pursuant to 37 CFR § 1.130, § 1.133, § 1.132 or the evidence relied upon by appellant and entered by the Examiner.

No evidence was submitted by appellant under 37 CFR § 1.130, § 1.131 or § 1.132.

XI) Related Proceedings Page

There are no prior or other pending appeal(s), interference(s), or judicial proceeding(s) known to appellant, appellant's legal representatives or assignee which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal and there are no decisions rendered by a court or the Board in any proceeding identified pursuant to paragraph (C)(i)(ii) of 37 CFR § 41.37 to be attached to this present appeal.